



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,059	07/11/2003	Brian J. Schwartz	EH-10937 (03-358)	4332
34704	7590	06/30/2006		EXAMINER
BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510				SHAKERI, HADI
			ART UNIT	PAPER NUMBER
			3723	

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/618,059	SCHWARTZ ET AL.
	Examiner	Art Unit
	Hadi Shakeri	3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8, 10, 11, 13-16 and 18-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-8, 10, 11, 13-16 and 18-26 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 22 April 2005 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 20, 2006 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 16-19 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a plurality of coolant outlet discharging a plurality of liquid coolant streams, does not reasonably provide enablement for one coolant nozzle discharging a plurality of liquid streams. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The specification enables and supports more than one outlet to discharge more than one streams, however, it does not provide enablement for one nozzle to discharge more than one stream. Applicant in response to the 112, 2nd rejection applied to this claims, in previous Office Action, argues that it is possible for one outlet to discharge more than one stream, e.g., due to complex shapes, however, such shapes are neither recited in the claims, nor disclosed in the specification.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

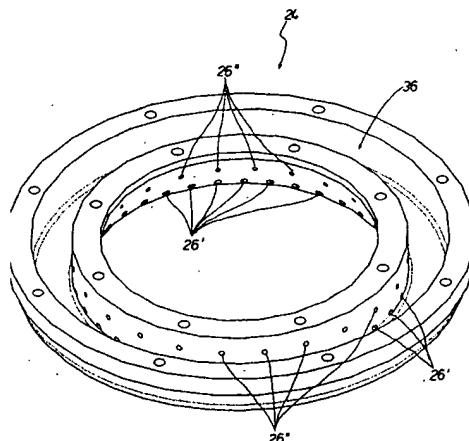
Regarding claim 15, the language as recited renders the scope unascertainable. It is unclear what structure or element is being claimed by "outlets provide a redundant coverage". Is applicant claiming more than one plurality of outlets, or special positioning of the outlets?

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 10, 11 and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by DE 202 16 396.

DE '396 discloses all of the limitations of claim 10, i.e., a machine tool having an elongated abrasive bit (14,16) a coolant nozzle having at least one coolant inlet (24); a plurality of coolant outlet (26) or (26', 26") oriented to discharge coolant obliquely (Fig. 11) arranged with circumferential spacing of no more than 72 degrees for each adjacent two outlets in either circumferential direction, wherein the nozzle further includes one or more passageways (36) defined by internal surface portions between the inlet and the outlet.



Art Unit: 3723

Regarding claims 11, 13-15, DE '396 meets the limitations, i.e., coolant outlets at common radial position (26, Fig. 8); no more coolant outlet than the ones circumferentially positioned; 360 degrees and the coolant being angled (sloped neck).

Claim Rejections - 35 USC § 103

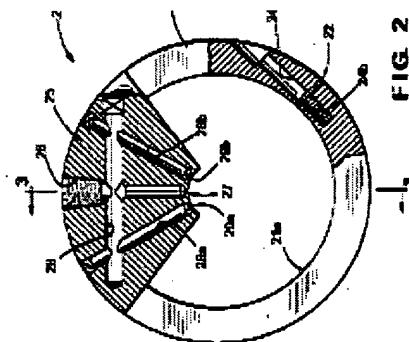
8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-11, 13-16 and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer (6,471,573).

Reitmeyer meets all of the limitations of claims 1, 10, 16 and 20, i.e., a coolant nozzle having at least one coolant inlet (26); a plurality of coolant outlet (27, 29a, 9b) oriented to discharge coolant obliquely (Fig. 3), wherein the nozzle further includes one or more passageways (28) defined by internal surface portions between the inlet and the outlet, except for disclosing outlets to be arranged with circumferential spacing of no more than 72 degrees for each "adjacent" two outlets in either circumferential directions and for the method of forming the nozzle, i.e., sintered. Reitmeyer discloses in (03:59-62) that "any desired number of such outlet ports 27, 29a, and 29b may be located in any desired positions relative to the tool 12".

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of Reitmeyer with more outlet ports (e.g., 5, spaced substantially around the adaptor) with spacing of no more than 72 degrees, in adapting the



Art Unit: 3723

device for a particular application and since it has been held that changing shape, dependent on work-piece parameters, involves only routine skill in the art. *In re Stevens*, 101 US PQ 284(CCPA1954).

The method of forming the device, i.e., sintered body, is not germane to the issue of patentability of the device itself. However, sintering to make the device last longer and/or to protect it against corrosion, is known in the art and such modification would have been well within the knowledge of one of ordinary skill in the art.

Regarding claims 2-11, 13-15, 19 and 21-26, Reitmeyer as modified above meets the limitations, i.e., common radial position at unique angle; not more coolant outlet than the one circumferentially positioned; angled outlet (Fig. 3); wherein more than one outlet is provided, thus workpiece blocking one, would still be covered by others; wherein the bit is elongated superabrasive.

With regards to claim 19, the modified prior art discloses the claimed invention except for the use of the specific materials. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use ceramic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

10. Claims 10-11, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer (6,471,573) either alone or in view of DE '396.

Reitmeyer meets all of the limitations of the above claims, as indicated above, except for disclosing outlets to be arranged with circumferential spacing of no more than 72 degrees for each "adjacent" two outlets in either circumferential directions. DE '396 teaches a coolant nozzle with outlets surrounding the tool. It would have been obvious to one of ordinary skill in the art, at

the time the invention was made, to modify the invention of Reitmeyer with more outlet ports as taught by DE '396, in adapting the device for a particular application.

11. Claims 1-9, 16, and 18-26 (as best understood, i.e., more than one outlet) are rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer in view of Perkins et al.

Reitmeyer modified with respect to shape, as indicated above in section 9, meets all of the limitations of the above claims, except for nozzle with sintered body, number of outlets, the size, and the types of the bit. All obvious modifications to one of ordinary skill in the art in view of Perkins et al. and depending on the intended use, workpiece/operational parameters, as indicated above in sections 9 and 10 above.

12. Claims 1-9, 16, and 18-26 (as best understood, i.e., more than one outlet) are rejected under 35 U.S.C. 103(a) as being unpatentable over DE '396 either alone or in view of Perkins et al.

DE '396 modified with respect to choice of material as indicated above, or in view of Perkins et al. further modified in light of combination with known tools, depending on the intended use, as indicated above meets all the limitations.

Response to Argument

13. Applicant's arguments filed April 20, 2006 have been fully considered but they are not persuasive.

Claims 16-19 are still rejected, since specification as originally filed does not support such embodiment. The argument that such embodiment is possible, i.e., "outlet having complex shape", does not overcome the rejection, since Applicant failed to point out the support for the

Art Unit: 3723

embodiment in the specification as originally filed. What defines such "complex shape", and how does the specification and/or claims, describe or recite the shape?

The argument against DE '396 is that the outlets (26') (26") are at different radial positions, is not persuasive. Firstly it is noted that it only applies to claim 11 thus fails to indicate what claim limitation is not met by either (26) or (26', 26") or both for the parent claim 10. The limitations that there are no more outlets in addition to the plurality of outlets, fails to read over the reference, whether (26) or (26', 26") is defined or considered as the "plurality of outlets", i.e., with regards to Figs. 11 and 12 (26', 26" both defining the plurality) or 8 and 9 (only outlet 26). The limitations of common radial position as recited in claim 11 is met by Figs. 8 and 9, where only one set of outlets (26) is shown.

The argument against Reitmeyer is moot in view of the new rejection. With regards to claims 21, and 22 the limitations attributed to the bit, even though is met by the reference, is either met by the references or using such bits are obvious to one of ordinary skill in the art, since these type of bits are old and commonly used in the art. With regards to claim 14 and 15, these claims only recite in a narrative way the function of the nozzle, no structures claimed to read over the prior art of record, however, even the narrative language is met by the nozzle as they do provide essentially total coverage of the bit, since Reitmeyer as modified, e.g., substantially circumferential nozzles meets the limitations as best understood.

Using sintered ceramic for a nozzle, is taught by Perkins, applying it to a coolant nozzle for its desired properties, e.g., light, durable, strong, is considered modification well within the knowledge of one of ordinary skill in the art.

The argument with regards to claim 2 is not persuasive. Applicant argues that the "nozzle" is of single unitary structure, and that this unitary structure, of course excludes other components such as fittings, fasteners and the like. The references applied disclose a single

Art Unit: 3723

unitary piece, even if "single unitary piece" is taken to define "monolithic" (e.g., 25, excluding the fittings, fasteners 21).

The argument that materials other than ceramic may be used fails to indicate, why Arai in combination with Perkins, i.e., a sintered ceramic nozzle does not meet the claim as now recited. The argument that the body is single unitary piece, is not persuasive, since the core may be defined by the "body" and that Applicant is reading more into "single unitary piece" than the broadest definition, which met by the prior art of an integral, or unitary piece (forming a unit).

The argument regarding claim 5 is not persuasive, since figure 1 clearly shows streams directed towards the axis of the bit.

The argument regarding claim 15 is not persuasive, since Arai discloses more than one nozzle around the bit (a rotating bit) and the argument that Arai has different purpose fails to indicate what limitations are not met.

The argument regarding claim 24 is not persuasive, since the nozzle cannot be further limited by the fluid being sent through it, the nozzle of prior art is capable of meeting the language, i.e., using an oil-based coolant. It is further noted that DE '396 discloses a preference to use water.

The argument that modification with regards to number of outlets, the size and the combination with a quill is all hindsight is not persuasive. These modifications are all considered well within the knowledge of one of ordinary skill in the art depended on workpiece and/or operational parameters. Changing the number of a prior art patent, e.g., from 3 to 5 is not considered novel and one, which would require undue experiments.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so

Art Unit: 3723

long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case it is well within the knowledge of one of ordinary skill in the art to use ceramic or sintering method for durability and/or to protect against corrosion.

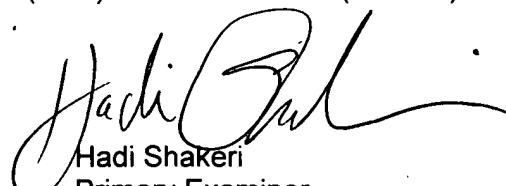
In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, using ceramic for its desired properties is the motive, since Perkins teaches the use of ceramic in nozzles, where, e.g., high strength is required.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Shakeri whose telephone number is 571-272-4495. The examiner can normally be reached on Monday-Friday.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hadi Shakeri
Primary Examiner
Art Unit 3723
June 24, 2006